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08/928, 156 09/12/97 BERSTED

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EXAMINER

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ART UNIT

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/928,156	Applicant(s) Bersted et al.
	Examiner Cheryl Juska	Group Art Unit 1771

Responsive to communication(s) filed on Sep 8, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

Claim(s) 1-79 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

Claim(s) _____ is/are allowed.

Claim(s) 1-79 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 7

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Response to Amendment

1. Amendment A, submitted as Paper No. 7 on September 8, 1999, has been entered. Claims 1, 3, and 9 have been amended and new claims 10-79 have been added.
2. The amendments to independent claims 1 and 9 are sufficient to withdraw the 35 USC 102 rejection of claims 1-9 as being anticipated by Negola, as set forth in section 2 of the last Office Action. In particular, the claims now limit the yarn filaments to "consisting essentially of a propylene polymer." Negola, however, teaches a bicomponent sheath-core filament, wherein said sheath is nylon.

Response to Arguments

3. Applicant's arguments with respect to claims 1-79 have been considered but are moot in view of the new grounds of rejection.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

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A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-7, 16, 17, 22, 31, and 41-47 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 11, 14-17, 24, and 25 of prior U.S. Patent No. 5,945,215 issued to Bersted et al. This is a double patenting rejection. The cited claims of Bersted include a limitation to an "Apparent Average Microfibril Diameter." It is noted that Applicant's claims do not recite said limitation. However, said limitation is an inherent property of the Applicant's claimed yarn. Thus, a statutory double patenting rejection is made.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-79 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Ex parte SLOB, 157 USPQ 172 (BdPatApp&Int 1968), states the following:

Claims merely setting forth physical characteristics desired in article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics; thus, expression "a liquefiable substance having a liquefaction temperature from about 40°C. to about 300°C. and being compatible with the ingredients in the powdered detergent

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"composition" is too broad and indefinite since it purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites compounds by what it is desired that they do rather than what they are; expression also is too broad since it appears to read upon materials that could not possibly be used to accomplish purposes intended.

In our opinion, this language purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites the compounds by what it is desired that they do rather than what they are. We consider the holding in Austenal Laboratories, Inc. v. Nobilium Processing Company, 115 USPQ 44, is especially pertinent here, that claims merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in the future and which would impart the desired characteristics.

Thus, claims 1-79 are rejected as being indefinite due to the claim limitations drawn to the "Plug Crush Recovery" property. Said claims are vague and indefinite because they do not set forth a specific composition which would meet said property. Additionally, said claims are functional since they cover any conceivable composition which would impart the claimed property, wherein said composition is either presently existing or yet to be discovered.

8. Claims 60-79 are indefinite for it is unclear how the *filaments* are "oriented." Additionally, it is unclear how "bulking the yarn" can "form a product that can withstand heating at a temperature within 20°C of the melting point of the propylene polymer." It is generally accepted in the art that a drawing step is responsible for orienting the polymer molecules, wherein the orientation of molecules produces a more crystalline polymer which is able to withstand higher temperatures.

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Claim Objections

9. Claim 65 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 65 limits the yarn of claim 64 to having a Plug Crush Recovery of at least 85%. However, claim 65 ultimately depends from claim 60 which already recites said limitation. Hence, claim 65 does not further limit the parent claim.

Claim Rejections - 35 USC § 102/103 (Martin)

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claim 60-63, 65-67, 69, 70, and 75-79 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 3,152,380 issued to Martin.

Independent claim 60 is drawn to a yarn consisting essentially of filaments consisting essentially of propylene polymer and having a Plug Crush Recovery of at least 85%, wherein said yarn is prepared by the process comprising the steps of (a) melt spinning a thermoplastic resin consisting essentially of propylene polymer through at least one orifice to form at least one filament, (b) gathering a plurality of filaments into yarn, (c) orienting the filaments or yarn, (d) bulking the yarn to form a product that can withstand heating at a temperature within about 20°C of the melting point of the propylene polymer, and (e) heating the product at least one temperature below but within about 20°C of the melting point of the propylene polymer with the filaments in a substantially relaxed state. Claims 61 and 66 limit the yarns of claims 60 and 65, respectively, wherein the resin includes a selected additive. Claim 62 limits the propylene polymer to a homopolymer. Claim 63 limits the filaments to continuous filaments. Claim 65 limits the yarn of 64 to having a Plug Crush Recovery of at least 85%. Claims 69 and 75 limit the Plug Crush Recovery of the yarns of claims 68 and 74, respectively, to at least 87%. Claims 67, 70, 76, 77, and 78 are drawn to a carpet having a pile surface comprising the yarns of claim 66, 69, 75, 62, and 60, respectively. Claim 79 is drawn to a fabric comprising yarn according to claim 60.

Martin discloses carpet yarns comprising melt-spun polypropylene filaments, wherein said polypropylene may be a homopolymer, a copolymer, or a blend of polypropylene (col. 1, line 53-

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col. 2, line 3). The filaments are gathered and drawn, or oriented, to improve the properties thereof (col. 2, lines 8-44). The drawn filaments are then bulked by known methods (col. 3, lines 14-34). Next, the bulked filaments are subjected to a heating step, wherein said bulked filaments are heated to a temperature from 140°C up to the melting point of the fibers for at least one second in 'an untensioned state' (col. 2, line 45-col. 3, line 13 and col. 7, lines 1-7). Martin also teaches the use of titanium dioxide as an additive to the polypropylene resin (col. 4, line 4).

Thus, the Martin invention anticipates the limitations of Applicant's claims 60-63, 65-67, 69, 70, and 75-79 with the exception of the claimed Plug Crush Recovery. Martin does teach that the inventive filament shows improved recovery to compression (col. 1, lines 47-52). However, the recovery from compression value cited by Martin is not based upon variables identical to those disclosed by the Applicant. (Compare Martin, col. 3, lines 35-70 to Applicant's specification, pages 61-67.) Hence, a direct comparison of Martin's 'recovery from compression' values to the Applicant's 'Plug Crush Recovery' values cannot be made. Thus, it is reasonable to presume that the invention of Martin inherently possesses the Applicant's claimed Plug Crush Recovery. Support for said presumption is found in the fact that the Martin invention meets (i) the other limitations of Applicant's claims, (ii) the compositional limitations taught in the specification, and (iii) the process limitations taught in the specification. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the presently claimed Plug Crush Recovery would obviously have been provided as a result of the invention of Martin. *In re Best*, 195 USPQ 433.

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It is noted that the specification at Comparative Example 3 (page 80), compares Plug Crush Recovery values for the cited Martin invention to the Applicant's invention. However, the rejection of Applicant's claims by the Martin patent is deemed valid for the following reasons. First, the four comparative samples according to Martin do not appear to cover all of the Applicant's claimed embodiments. Secondly, as was stated above, the property of Plug Crush Recovery is an indefinite claim limitation. Hence, without a recitation to a chemical, structural, or process limitation which clearly is patentably distinguishable from the cited Martin patent, said rejection is maintained.

13. Claims 64 and 74 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the cited Martin patent, as applied above.

Claims 64 and 74 limit the yarns of 63 and 73, respectively, to having a bulk level of 2 to 20%. Martin does not explicitly teach 'bulk level.' However, the methods of bulking taught by Martin are identical to those taught by the Applicant. (Compare Martin, col. 3, lines 14-34 to Applicant's specification, page 53, line 31-page 54, line 25). Thus, it is reasonable to presume that the invention of Martin inherently possesses a bulk level within the range claimed by the Applicant. The burden is upon the Applicant to prove otherwise.

14. Claims 1-5, 7, 10-17, 19-25, and 27-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 3,152,380 issued to Martin.

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Claim 1 is drawn to a bulked continuous filament yarn consisting essentially of a plurality of filaments consisting essentially of propylene polymer and having a Plug Crush Recovery of at least 85%. Claim 3 limits the propylene polymer to a homopolymer polypropylene, while claim 10 limits the propylene to being a copolymer of propylene and at least one copolymerizable monomer. Claims 13 and 23 limit the yarns of claims 10 and 3, respectively, wherein the propylene polymer has at least one additive that is a pigment, process aid, flame retardant, heat stabilizer, light stabilizer, antimicrobial agent, electrically conductive material, antistatic agent, or stain resisting agent. Claims 2, 11, 14, 16, and 24 limit the yarns of claims 1, 10, 13, 3, and 23, respectively, to having a bulk level ranging from 2 to 20%. Claims 4, 12, 15, 17, 19, 25, and 27 limit the yarns of claims 3, 11, 14, 16, 18, 24, and 26, respectively, to having a Plug Crush Recovery to at least 87%. Claims 21 and 29 limit the yarns of claims 19 and 26, respectively, to having a Plug Crush Recovery of at least 90%. Claims 5, 20, 22, 28, and 30 are drawn to a carpet having a pile surface comprising the yarns of claims 1, 19, 16, 27, and 24, respectively. Claim 7 limits the carpet of claim 5 to having loop pile tufts. Independent claim 31 contains a combination of limitations found in claims 1, 2, 3, and 23.

The limitations of the cited claims have been previously discussed with regard to the cited Martin patent. The arguments presented previously are also valid for claims 1-5, 7, 10-17, 19-25, and 27-31. Hence, said claims are rejected as being anticipated by, or in the alternative, as being obvious over the cited Martin patent.

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15. Claim 32 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the cited Martin patent.

Claim 32 limits the yarn to having 5 to 2400 filaments per yarn wherein the filaments have a denier of 0.5 to 100. Martin also teaches yarns having a yarn denier of about 300 (col. 5, line 72 and col. 6, lines 37 and 44), and 23 filaments per yarn (col. 6, lines 37 and 45), and a denier per filament ranging from 1-40 (col. 7, lines 10-11). Thus, the limitations of claim 32 are taught by the cited Martin patent. Therefore, claim 32 is rejected under 102 or 103 for the reasons presented above.

16. Claims 41-59 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 3,152,380 issued to Martin.

Independent claim 41 is drawn to a yarn consisting of a plurality of bulked continuous filaments and having a Plug Crush Recovery of at least 85%, wherein the filaments consist essentially of a propylene polymer selected from (a) a homopolymer polypropylene, (b) a copolymer of propylene and at least one copolymerizable monomer, and (c) a blend of the propylene polymer with at least one other polymer, provided that when the other polymer is a polar polymer, the blend also contains a compatibilizing agent. Claim 42 limits the filaments to consist essentially of (a) or (a) plus a selected additive. Claim 48 limits the filament to consist essentially of (b) or (b) plus a selected additive, wherein the amount of polymerized comonomer units is up to 10 parts by weight per 100 parts by weight of the polymerized propylene units. Claim 54 limits the filament to (c) or (c) plus a selected additive. Claims 43, 47, 49, 53, 55, and

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59 are drawn to a carpet having a pile surface of the yarns of claims 42, 46, 48, 52, 54, and 58, respectively. Claims 44, 50, and 56 are drawn to a fabric comprising the yarns of claims 42, 48, and 54, respectively. Claims 45, 51, and 57 limit the yarns of claims 42, 48, and 54, respectively, to a bulk level of 2 to 20%. Claims 46, 62, and 58 limit the yarns of claims 45, 51, and 57 to having a Plug Crush Recovery of at least 87%.

The limitations of the cited claims have been previously discussed with regard to the cited Martin patent. The arguments presented previously are also valid for claims 41-59. Hence, said claims are rejected as being anticipated by, or in the alternative, as being obvious over the cited Martin patent.

Claim Rejections - 35 USC § 103 (Martin)

17. Claims 18, 26, 68 and 73 are rejected under 35 U.S.C. 103(a) as obvious over the cited Martin patent.

Claims 18, 26, 68, and 73 limit the yarns of 16, 24, 66 and 63, respectively, to having 40 to 300 filaments per yarn. Martin only cites one exemplary number of filaments per yarn (23), which falls outside of the range claimed by the Applicant. However, in the absence of an explicit teaching of a suitable range for the number of filaments per yarn, one skilled in the art would rely upon ranges convention to the art, in particular the carpeting art. Applicant is hereby given Official Notice that the range of number of filaments per yarn is not novel to the art of carpet yarns. Motivation to employ a yarn with other than 23 filaments per yarn, as is taught by Martin,

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would be to produce a denser carpet pile. Therefore, said claims are rejected as being obvious over the cited prior art.

18. Claims 9 and 33-40 are rejected under 35 U.S.C. 103(a) as obvious over the cited Martin patent.

Independent claim 9 is drawn to a yarn consisting essentially of 70 to 300 substantially continuous filaments that consists essentially of polypropylene homopolymer and have deniers of 8 to 30, wherein the yarn has a bulk level of 5 to 15%, a denier of 500 to 3000, and Plug Crush Recovery of 85%.

Claim 33 limits the yarn to having 70-300 filaments per yarn and a yarn denier of 500 to 3000. Claim 36 limits the yarn of claim 33 to having a bulk level of 8-16%. Claims 34, 35, 37, 38, 39, and 40 limit Plug Crush Recovery values and carpets comprising said yarns.

Applicant is hereby given Official Notice that the claimed number of filaments per yarn and the claimed yarn denier are not novel to the carpeting arts. As was argued in the above paragraph, it would have been obvious to one skilled in the art to choose a number filaments per yarn other than the 23 filaments exemplified by Martin. Motivation to do so would be to produce a heavier denier yarn which would produce a denser carpet pile. Therefore, said claims are rejected as being obvious over the cited Martin patent.

19. Claims 8, 71, and 72 are rejected under 35 U.S.C. 103(a) as obvious over the cited Martin patent.

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Claim 8 limits the carpet of claim 5 to an automotive carpet. Claims 71 and 72 limit the carpet of claim 70 to be residential carpet and automotive carpet, respectively. Martin teaches the use of the inventive yarn to form pile carpets, particularly a loop pile carpet (col. 6, line 23). However, Martin does not explicitly teach of residential and automotive carpets. Applicant is hereby given Official Notice that the specific categories of residential and automotive carpets are well known in the general art of carpeting. Hence, it would have been obvious to one skilled in the art of carpeting to employ the yarn of Martin to make carpets for specific end uses, such as residential and automotive carpets. Therefore, said claims are rejected as being obvious over the cited Martin patent.

20. Claim 6 is rejected under 35 U.S.C. 103(a) as obvious over the cited Martin patent.

Claim 6 limits the carpet of claim 5 to having cut pile tufts. Martin only exemplifies loop pile. However, it is well known in the art to cut looped tufts to form a cut pile carpet. Applicant is hereby given Official Notice of this practice. Thus, it would have been obvious to one skilled in the art to cut the looped tufts of the Martin example in order to produce a cut pile loop. Therefore, claim 6 is rejected as being obvious over the cited patent.

Claim Rejections - 35 USC § 102/103 (Wishman)

21. Claims 1-5, 16-25, 30, 41-47, 60-67, 78, and 79 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over European Patent 330 212 issued to Wishman et al.

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Wishman discloses a highly resilient polypropylene fiber having a compression recovery of at least 250% (abstract). Specifically, a process of making said fibers includes the steps of (a) melt-spinning fibers, (b) drawing said fibers to produce sufficient crystallinity so that the fibers can withstand the subsequent heat treatment, (c) bulking said drawn fibers, and (d) heat treating the fibers (col. 1, lines 45-53). The fibers are spun from polypropylene or a polypropylene blend, and may include additives such as stabilizers, flame retardants, etc. (col. 2, lines 22-41). The spun fibers have a preferred denier per filament ranging from 1 to 130 (col. 3, lines 11-15). The fibers are heat treated at a temperature ranging from 284°F to about 315°F (140-157°C) (col. 4, lines 14-21). Wishman does not explicitly state that the fibers are in a relaxed state during the heat treatment. However, the examples given appear to be in a relaxed state rather than under tension (col. 4, lines 22-29 and col. 6, lines 17-20). Wishman also measures a compression recovery, but does not utilize the same measurement variables that the Applicant employs in measuring the claimed Plug Crush Recovery (col. 4, line 42-col. 5, line 28).

Thus, it can be seen that Wishman teaches the limitations of Applicant's claims with the exception of the claimed Plug Crush Recovery. However, the arguments presented above in the Martin rejection are also valid here. Hence, Applicant's claims 1-5, 16-25, 30, 41-47, 60-67, 78, and 79 are anticipated by, or in the alternative, are obvious over the cited Wishman patent.

22. Claims 6-15, 26-29, 31-40, 48-59, and 68-77 are rejected under 35 USC 103(a) over the cited Wishman patent alone, or in view of the cited Martin patent. Said rejection is based upon

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arguments similar to those presented above in the rejections of the specific limitations of each claim. Therefore, said claims are rejected as being obvious over the cited art.

Claim Rejections - 35 USC § 102/103 (Lopatin)

23. Claims 1-5, 9-70, and 73-79 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 3,296,681 issued to Lopatin.

Lopatin discloses bulked polypropylene filaments which may be used for fabrics and carpet (col. 1, lines 13-22). The bulked filaments are subjected to a heating step wherein the filament, in a tension-free condition, is heated to a temperature within up to 5°C of the softening temperature of the filament (col. 2, lines 28-44). The filaments are of isotactic polypropylene, a copolymer of isotactic and atactic polypropylene, or a blend of isotactic propylene and another alpha olefin polymer (col. 3, line 55-col. 4, line 11). The polypropylene may also include additives such as antioxidants, ultraviolet stabilizers, and pigments (col. 4, lines 13-36). The filaments of a multifilament yarn have a denier ranging from 1.5 to 30 (col. 4, line 74-col. 5, line 4). Exemplary yarns of the invention include a yarn denier of 1800 and 860, 90 and 140 filaments per yarn, and 20 and 6 denier per filament (col. 10, line 63).

Thus, it can be seen that Lopatin teaches the limitations of Applicant's claims with the exception of the claimed Plug Crush Recovery. However, the arguments presented above in the Martin rejection are also valid here. Hence, Applicant's claims 1-5, 9-70, and 73-79 are anticipated by, or in the alternative, are obvious over the cited Lopatin patent.

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24. Claims 6-8, 71, and 72 are rejected under 35 USC 103(a) over the cited Lopatin patent. Said rejection is based upon arguments similar to those presented above in the rejections of the specific limitations of each claim. Therefore, said claims are rejected as being obvious over the cited art.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Juska whose telephone number is (703) 305-4472. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached at (703) 308-2414. Fax numbers for this Group are (703) 305-3601 and (703) 305-7718.



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